SoloCAT HD™ MAX

Model 900-000172

Specifications and features

HDMI® over HDBaseT® technology

•Bi-directional IR with Zektor's adaptive IR circuitry which allows compatibility with virtually any controller, and industry standard 5V emitters.
•Bi directional RS232
•Single CAT5e/6 up to 328' (SoloCAT HD & SoloCAT HD MAX)
•Single CAT5e/6 up to 210' (SoloCAT HDL)
•Only requires power at the transmitter side
•3D capable
•HDCP Compliant
•Uncompressed video resolution 1080p / 1920x1200 / 2k (2048x1080p) and 4K (4096×3072)
•Deep Color 24-48 bits
•Video Bandwidth Up to 10.2GHz
•Supports Refresh Rates: 24Hz, 30Hz, 60Hz
•Vertical Frequency Range 50 ~60 Hz
•Audio Performance PCM (7.1ch), Dolby Digital, True HD, DTS-HD & Master Audio
•Power Supply 48V 2A (universal)
•Operation Temperature 0˚C to 70˚C.
•Dimension (in) 6 x 5 x 1
•Weight (lb) 2.3
•Supports Refresh Rates: 24Hz, 30Hz, 60Hz

Power, rack and hardware information

• IR Extender Output (3.5mm)
• IEC power connection to
• Auto detecting power supply: 240V DC/6.25A 110V / 240V
•SoloCAT HD™ MAX dimensions 9.5" (W) X 4.5" (H) X 1" (D)
• Weight: 4 Lbs
• Designed and supported in the U.S.A.

Warranty

• 3 year parts and labor warranty

Audio Return Path from Zektor Works with, or without, CEC enabled.

SoloCAT HD™ MAX

HDMI over HDBaseT®, bi directional IR, bi directional RS232 with ***10/100 Ethernet and audio return path***. Reliable audio return which work s outside of CEC control. No power or ground required at the receiver.

Zektor was one of the early adopters of HDBaseT® One of the highest volume of HDBaseT® extender manufacturers in the CI channel

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Included items

SoloCAT™ HD MAX Transmitter x 1
SoloCAT™ HD MAX Receiver x 1
48V Switching Power Supply x 1
HDMI cable x1
User's Manual x1

Safety and Notice

Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

•Follow all instructions and warnings marked on this unit
•Do not attempt to service this unit yourself, except where explained in this manual
•Provide proper ventilation and air circulation
•Do not use near water
•Keep objects that might damage the device and assure that the placement of this unit is on a stable surface
•Use only the power adapter and power cords and connection cables designed for this unit
•Do not use liquid or aerosol cleaners to clean this unit
•Always unplug the power to the device before cleaning

Safety and Notice

Always adhere to safety instructions of this device and all local electrical codes to protect yourself from possible injury and to minimize the risk of damage to the unit.

CONNECTION BETWEEN THE SoloCAT HD™ MAX MUST BE MADE WITH A DIRECT, SINGLE, UNSPLICED CAT5e/6 CABLE

DO NOT CONNECT THROUGH PATCH PANELS

BE CAREFUL WHEN RUNNING CAT CABLES NEAR ELECTRICAL CABLING, JUNCTION BOXES AND ANY OTHER SOURCE OF ELECTRICITY THAT CAN ARC ONTO CATEGORY CABLE.

On “takeover” projects, always inspect all prewired cabling to ensure proper and safe routing.

About the SoloCAT HD™ MAX

The SoloCAT HD ™ MAX HDMI over HDBaseT™ CAT5e/6 extender series is designed to be HDMI 1.4a compatible and 3D capable, enabling the reliable transmission of the HDMI; bi-directional IR and bi-directional RS232 signals up to 328ft in 1080p HD (even 4K/2K resolutions and 3D format).

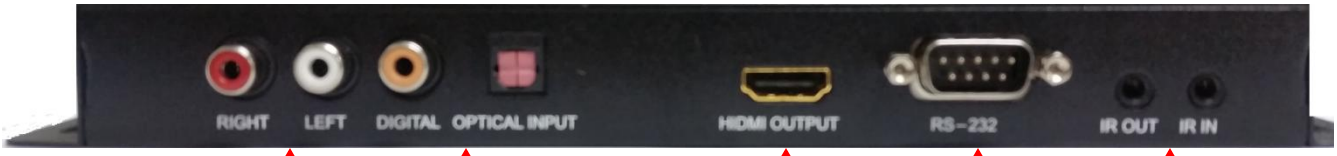
The SoloCAT HD™ series is HDMI 1.4 compatible allowing you to take full advantage of the new technology by supporting much higher resolutions than 1080p or 1440p including 2k (2048x1080p) and 4K (4096×3072) resolutions. Future versions of this device will add the capability for Ethernet data channel, allowing other HDMI 1.4 enabled devices to share a network connection for internet connectivity. There is NO power or ground required for the SoloCAT HD™ MAX receiver.

Since the SoloCAT HD™ series has bi-directional IR, it is the perfect device for multi-room applications and third party control systems. With bi-directional communication from a remote control or control system, commands can be sent from the remote location back to the main equipment center or the other way around.

Note: The maximum usable distance depends on the quality and characteristics of the cables. Higher resolutions and longer transmission distances work better with higher quality cables with thicker insulation to lower crosstalk between the twisted pairs. Unshielded Cat6 is better than Cat5e in this regard.

For more information about HDMI over HDBaseT technology you can visit www.valens-semi.com

SoloCAT HD™ MAX Receiver



Stereo L/R Input | Digital Inputs | HDMI Output | Serial bi directional | IR bi directional

4 port 10/100 Ethernet Switch Inputs | HDBT Input | ARP DIP Switch Info | LED Indicators

SoloCAT HD™ MAX Transmitter

4 port 10/100 Ethernet Switch Outputs | HDBT Output | LED Status Indicators

48V Power | Stereo L/R Output | Digital Outputs | Local HDMI Output | HDMI Input | Serial bi directional | IR bi directional

3. **Installation**

Critical: CONNECT THE POWER INPUT TERMINAL TO THE TRANSMITTER ***BEFORE*** APPLYING A.C. POWER TO THE TRANSMITTER'S POWER SUPPLY. The power supply provides 48V to the TX/RX pair for operation. If wall power is applied to the power supply before a connection is made to the transmitter, there is a likelihood of a power arc to the transmitter power connection which can cause damage or failure. FAILURES OF THIS NATURE ARE NOT COVERED UNDER OUR WARRANTY.

1. Turn off power at connected sources
2. Connect the HDMI® cable between the source and the "HDMI® IN" port of the SoloCAT HD™
3. Connect the HDMI® cable between the display and the "HDMI® OUT" port of SoloCAT HD™
4. Connect the CAT5e/6 cables between the SoloCAT HD™ transmitter and receiver
5. Connect the power cord to turn on the extender.
6. Turn on the source(s) and display(s)
7. Use CAT5e/6 cables to link the transmitter and the receiver. As in all installations, poor quality cable will result in lesser quality results and occasionally intermittent problems. However, in our testing we used off the shelf CAT5e cable from Home Depot® which worked fine and provided an outstanding result. Zektor recommends using EIA/TIA 568B for CAT5e/6 termination for consistency, but we work equally well with EIA/TIA 568A projects. *(Mixing these two termination types in a single project may damage your extenders and is not covered under our warranty!)* We have included a reference diagram below for your convenience.
8. Make sure that the source, the transmitter, the receiver and the displays are all properly connected.
9. Connect your serial cables if using the bi directional serial function.

Note: After initial power on, allow for EDID verification and HDCP handshake. A visible image at the display after initial power on can take up to 5 seconds. Blinking can appear during this connection time then stabilize for normal operation. Response time is completely dependent on the display manufacturer.

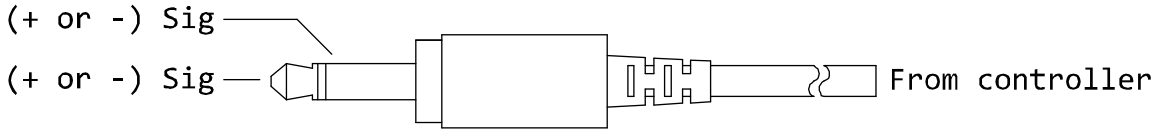
4. Bi directional IR

Zektor's new IR inputs are fully opto-isolated to work with virtually any controller, any polarity, and any grounding system accepting voltages between 3.5V to 15V.

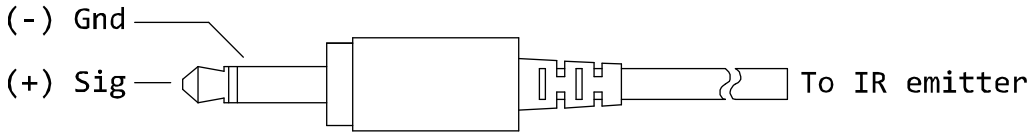
The Zektor IR outputs use standard pinouts and work with industry standard 5V IR emitters. You can connect a 12V control system to an IR input, and use 5V IR emitters on the outputs.

IR Receiver Cable Pinouts:

IR Cable from Controller to IR-IN



IR Cable from IR-OUT to 5V Emitter



5. LED Indicators

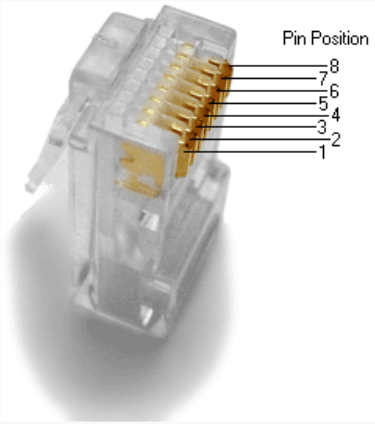
On the front of the SoloCAT HD™ chassis there is a horizontal block of four (4) green LED's that is marked "Status" on the chassis just above the LED's. From Left to Right this is an explanation of their activity:

#1 LED indicates normal operations and will flash once a second with HDCP pass through.
#2 LED If solid, indicates a valid link between the transmitter and receiver.
#3 LED If solid, HDCP is being passed properly between the source and monitor.
#4 LED power indicator

EIA/TIA-568-A and B termination chart.

Do not mix termination types on each end! Mixing termination types will damage your extenders and is not covered under our warranty!

T568A and T568B Wiring

Pin	T568A Pair	T568B Pair	Wire	T568A Color	T568B Color	Pins on plug face (socket is reversed)
1	3	2	tip	white/green stripe	white/orange stripe	
2	3	2	ring	green solid	orange solid	
3	2	3	tip	white/orange stripe	white/green stripe	
4	1	1	ring	blue solid	blue solid	
5	1	1	tip	white/blue stripe	white/blue stripe	
6	2	3	ring	orange solid	green solid	
7	4	4	tip	white/brown stripe	white/brown stripe	
8	4	4	ring	brown solid	brown solid	

EZ Crimp RJ45 crimp connectors:

We have conducted long term tests on these popular connectors. HDBaseT does not appear to be as susceptible to interference as other technologies.

However, to eliminate any potential corrosion on exposed wire ends as well as EMI / RFI interference, we highly recommend standard crimp RJ45 connectors.

6. Troubleshooting

Problem: No picture

Action: Make sure your source is working properly and outputting video. Check all connections from the source and control ports to the transmitter and from the receiver to the display and control ports. Make sure you have activity lights on the SoloCAT HD™ series transmitter and receiver. If no lights, remove all connections including power. Reconnect CAT5e/6 cable. Within 1-2 seconds you should see activity lights on the transmitter and receiver. Within 2-3 seconds you should have a picture on your display.

Action: Verify your cable is no longer than 328'. Make sure termination is identical on both ends. Verify your cable is not pinched, cut or has a defect. It is always good to have a good, known working cable available to verify.

Problem: IR/RS232 not communicating

Action: Check cabling. The HDBT design only provides a path for the control signal. There is no processing or manipulation of the signal. The serial path for HDBaseT is directional, it assumes the controller is on the HDBaseT transmitter side, and the device being controlled is on the receiver side. If you require the controller to be on the HDBaseT receiver side, you will need to use null modem cables on the receiver and transmitter sides.

Known issue with Snap AV IR pieces: If you are using a Snap AV (we hope not) IR transmitter / IR emitter, then you will need to place the nylon washers we supply in each kit. The Snap AV barrel is longer than most manufacturers causing it to ground and therefore not output an IR signal. Placing the nylon washer onto the barrel of their IR products will resolve the problem.

Problem: No power

Action: Check for power at electrical source. Remove and reconnect to one side of the SoloCAT HD. Only use a DC wall power supply provided by Zektor which came with the kit. If problem persists, call Zektor tech support and request a replacement power supply.

Problem: **Intermittent picture, pixilation**

Action: Check all cabling. This resolves most issues. If you are using EZ Crimp RJ45 connectors make sure the end of the cable is not corroded and/or shorting out. Re-terminate to T568B on both ends with standard crimp RJ45 connectors. Check all HDMI connections.

Remove all power. Apply power and connections as described in the installation section.

Problem: No picture on Samsung displays including 4K products

Action: Make sure that the display has the latest firmware which provides compatibility with HDBaseT products. Another nuance of Samsung displays is that using inputs 3 or 4 tend to work the best with HDBaseT.

Problem: No picture

Action: Check your HDMI cable. Even the best known brands can have compatibility issues.

Known issues: Do not use active HDMI cables with the SoloCAT HD extenders. For instance certain brands of Redmere cables do not work well, if at all, with HDBaseT™ technology.

7. Limited Warranty

Zektor Incorporated (“Zektor”) warrants the **SoloCAT™ HD** extender to be free from defects in the material and workmanship for 2 years from the date of purchase from the Zektor or an authorized dealer. Should this product fail to be in good working order within the 2 year warranty period, Zektor, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by Zektor for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken. A unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customer agrees to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.
Product must not be physically damaged or chassis opened. All original parts must be returned to Zektor unless instructed otherwise. Any product that shows signs of abuse or extreme wear will not be warranted. All products must be returned in reasonable condition. The content of this manual has been carefully checked and is believed to be accurate. However, Zektor assumes no responsibility for any inaccuracies that may be contained in this manual. Zektor will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. Also, the technical information contained herein regarding the Zektor Incorporated SoloCAT™ features and specifications is subject to change without further notice.

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